The National Configuration Management Standard Procedure Document for Facility Baselining

Department of Transportation

Federal Aviation Administration

Prepared by: Regional Configuration Management Strategic Planning Committee
For: ANS-110

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FOREWORD

The purpose of this plan is to establish a standard baseline process and identify a national approach for the development of facility baseline configurations. Headquarters and the Regions have collaborated to create this National Standard Process Document for Facility Baselining.

Facilities covered in this document include:

- Air Route Traffic Control Centers (ARTCC)
- Airport Traffic Control Towers (ATCT)
- Terminal Radar Approach Control (TRACON)
- Automated Flight Service Stations (AFSS)
- Air Route Surveillance Radar, (ARSR-4), Joint Surveillance Sites (JSS)
- Large Terminal Radar Approach Control (Large TRACONS)
- Air Traffic Control System Command Center (ATCSCC)

The large number of projects planned for these facilities highlights the need for reliable and accessible facility information. Accurate data relating to available space, electrical power, and Heating, Ventilation, and Air Conditioning (HVAC) is an essential element in the support of modernization projects, Capital Investment Project (CIP) improvements, budget development, and transition planning. Through the implementation of a National Facility Baseline Program, current and consistent facility configuration data will be readily available prior to the site adaptation and/or installation phase, eliminating the need for project-by-project data gathering. Engineering drawings and/or data will have an improved national and regional level of consistency that can be relied upon and used to support overall planning and budget efforts.

The Facility Baseline effort is essential part of the Federal Aviation Administration (FAA's) ability to plan the introduction of NAS subsystems with minimal impact to the facilities and, more importantly, minimal impact to Air Traffic (AT) operational capability. Through the use of formal configuration management, it will be possible to manage equipment installations, moves, and removals with respect to compliance with transition and "end-state" configuration guidelines. This National Standard Process Document identifies the roles and responsibilities of the Configuration Management (CM) participants and procedures used when implementing a baseline plan.

CM is a vital link in the success of the National Airspace System (NAS). Accurate physical configurations of baselined sites are products of quality CM.

Program Director, NAS Transition
and Integration Program, ANS-1

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Note: Drawing Packages for ARTCC and Large TRACON facilities are not featured in part due to the size of drawing packages. Samples are available upon request by contacting the Technical Graphics and Configuration Management Team, ANS-110 or any Regional CM Manager.

1.0 INTRODUCTION

To assure that National Airspace System (NAS) operational requirements are met, a systems approach to implementation of the Capital Investment Plan (CIP) has been adopted. This places an increased emphasis on the technical management of the NAS. Technical management requires exercising various System Engineering processes, one of which is Configuration Management (CM). Due to the importance of CM in the successful management of the NAS, Standard Processes for the performance of facility baseline activities have been developed.

The current lack of readily available site specific facility data impedes the Federal Aviation Administration (FAA's) ability to meet NAS objectives. Insufficient accurate data regarding available space, electrical power and Heating, Ventilation and Air Conditioning (HVAC) for facilities imposes a burden when planning modernization projects and improvements for these facilities. In an effort to alleviate these problems, regions are currently baselining facilities in support of transition planning activities. Baselining entails the recording and documenting the physical layout of the facility. This document defines a standard process, and ensures a consistent level of detail will be established and maintained for these baselined facilities.

There are a large number of CIP projects scheduled for implementation at Air Route Traffic Control Center (ARTCC), Airport Traffic Control Tower (ATCT), Terminal Radar Approach Control (TRACON) and Automated Flight Service Station (AFSS) facilities. Currently, each project manager must obtain needed data for a project, hoping available space will still be there when needed for installation. This is an expensive and inefficient method of operation. The system benefits are obvious for having these facilities baselined in a CM process, where space, power, and equipment placement requirements could be resolved and protected.

There has been a growing concern at FAA Headquarters and regional offices over the lack of accurate site specific drawings and facility data. Several groups, have expressed concern over the lack of consistent facility CM. Budget constraints are directing the FAA to conduct business in new and revolutionary ways. Product teams have discovered CM is vital in controlling costs. These factors are proving that effective management of information and systems is paramount to making sound, cost effective engineering, and program decisions. The CM process directly supports the regions and product team's capabilities to effectively plan for new systems and manage a product over its' lifecycle. Cost savings are evident when considering basic travel expenditures and the duplication of gathering facility data. It has been identified that over $750,000 was spent on site surveys associated with one recent system acquisition program. Engineers surveyed each site an average of three times because site configurations were not available. An established CM process ensures accurate and available site information, which in turn leads to significant cost savings for product teams and various engineering groups.

1.1 Purpose

The purpose of this guidance document is to provide a standard procedure for the performance of facility baselining activities. A standard procedure allows the FAA to establish and maintain a source of accurate technical data. The availability of this data will significantly enhance implementation and coordination activities while reducing costs associated with the fielding of CIP projects.

The facility baselines will provide current and consistent facility technical documentation and information. This will insure that planners and engineers will have access to the technical information they need for use in facility engineering, management analyses, development of budgetary estimates, and transition planning for facilities. Facility baselines will have an improved national level of consistency which will allow drawings and data to be more readily used to support both national and regional level planning, budgeting and engineering requirements.

1.2 Policy

It is FAA policy to develop and implement the techniques of configuration management in accordance with this standard document to achieve required NAS performance, operational efficiency, reliability, maintainability, and safety. The basic approach is to use standard CM techniques but retain flexibility to tailor requirements for each Configuration Item. This document describes the standard procedure used nationally for placing FAA facilities under CM and the tailoring necessary to use the best practices to achieve the desired results.

2.0 APPLICABLE DOCUMENTS

Orders

FAA Order 1800.8	National Airspace Configuration Management
FAA Order 1800.57	National Airspace System Configuration Control Board
FAA Order 6470.33	Control of Space at Air Route Traffic Control Centers
FAA Order 6032.1	Modifications to Ground Facilities, Systems & Equipment
FAA Order 1100.127	Airway Facilities Sector Configuration

Standards

FAA-STD-002	FAA Standard, Facilities Engineering Drawings Preparation

Other

NAS-MD-001	National Airspace System Master Configuration Index
	RCCB Charter and Operating Procedures Documents

3.0 FACILITY BASELINE PROCESS

The national facility baseline effort provides for the establishment and continued maintenance of facility baselines. This is to be accomplished in accordance with respective Regional Configuration Control Board (RCCB) Charters. The establishment of each facility baseline will be the responsibility of the respective RCCB. Once facility baselines are established and formally approved, they will be placed under the control of the respective RCCB. Under normal circumstances, no facility modifications or equipment relocations to the baselined facility or technical documentation is authorized prior to the submittal and approval of an NAS Change Proposal (NCP), see Figure 1. Emergency modifications will be processed in accordance with FAA Order 6032.1, Modifications to Ground Facilities, Systems and Equipment in the NAS.

3.1 Facility Baseline Packages Submittal to RCCBs

The facility baseline documentation package will be obtained and reviewed by the CM Manager for RCCB processing. All required changes and modifications to the facility baseline package, resulting from RCCB review and coordination, will be the responsibility of the regional focal point. Changes or modifications to facility drawings, as a result of an approved NCP, is the responsibility of the Region and ANI.

3.2 Technical Graphics and Configuration Management, ANS-110, Responsibilities

Perform lead role in the national facility baselining effort and coordinate the resolution of issues associated with the implementation of the National CM program and facility baselining. Reviewing facility technical documentation to assure data consistency and compliance with National Facility Baseline standards. Conduct Regional Audit and/or Reviews to identify areas that need improvement or introduce new business methods.

3.3 FAA Regional CM Manager Responsibilities

Perform as CM Manager for the Region. Establish and maintain baselines of FAA facilities and in conjunction with CM participants, coordinate the activities involved in baselining. Implement the Regional plan for the National Facility Baseline effort. Work with the other Regional and ANS-110 CM Managers to establish schedules, resolve program management concerns, oversee CM activities and provide overall program guidance within the region. Facilitate the resolution of all regional issues associated with the implementation of the National Facility Baseline effort. Manage and maintain the baseline process within the region and provide accurate information and coordinate with CM participants to meet program requirements.

CASE FILE/NAS CHANGE PROPOSAL (PLEASE TYPE OR PRINT NEATLY)	FOR CM USE	Case File Received Date	NCP Issuance Date	NCP Number	Page 1 of _____

1.Case File Number	2. Prescreening Office ☐ ASM- ☐ ATR ☐ ASE-500- ☐ ANS-200 ☐ AFE-100 ☐ APM-100 ☐ _____

3. Scope of Change	4. Program Element
☐ Local ☐ National ☐ Tes ☐ CIP	☐ Air Traffic Control ☐ Interfacility Comm ☐ _____ ☐ Ground-to-Air ☐ Maint & Opns Support

5. Life-Cycle Change	6. Priority	7. Supplemental Change Form
Acquisition: ☐ Requirements: Determination ☐ Functional ☐ Design ☐ Allocated ☐ Product ☐ Operational	☐ Normal ☐ Time-Critical ☐ Urgent	☐ ECR/ECP ☐ TES ☐ _____ 7a. Supplemental Change No._____ 7b. Supplemental Change Initiation Date_____

8. Case File Originator	9. Originator's Organization	10. Telephone Number	11. Case File Initiation Date

12. Baseline Document Type	13. Baseline Document Number(s)
☐ CPFS ☐ SPEC ☐ MTBK ☐ _____ ☐ TI ☐ DWG ☐ IRD/ICD	

14. CI Subsystem Designator	15. FA Type	16. CI Component Designator

17. Facility Identifier (FACID)	18. Facility Code (FACCODE)	19. Cost Center Code	20. Software System Version

21. Title (as descriptive as possible including location and runway number if applicable)

22. Description: (a) identification of problem, (b) proposed change, (c) interface impact, (d) cost, (e) benefits, (f) Schedule, (g) justification of time-critical/urgent status, (h) source of funding

Blocks 1 through 22 are to be completed by originator and/or the NCP coordinator. If a block is not applicable, write n/a. Attach additional sheets if necessary. See current revision of NAS-MD-001 for detailed completion instructions.

Figure 1 NAS Change Proposal

Case File Number	NCP Number	Page 3 of _____

23. Name and Title of Originator's Immediate Supervisor (Type/Print Clearly)	Signature	Date

24. Facility/Sector Review (AT/AF)					25. Regional Review (AT/AF/FS/AS)				
Name	Routing Symbol	Date	Concur	Non-Concur	Name	Routing Symbol	Date	Concur	Non-Concur
					☐ Recommend Approval			☐ Disapprove	
					(Enter into CM/STAT. Forward to Prescreening) (Return to Originator)				

Routing Symbol	Signature	Routing Symbol	Signature
Date		Date	
Routing Symbol	Signature	Routing Symbol	Signature
Date		Date	

24a. Comments	Routing Symbol	Signature/Configuration Mgr/NCP Coordinator/ Reg Exec Sec
	Date	
	25a. Comments	
	(Attach additional sheets if necessary)	

26. Prescreening Review Organization Comment
(Attach additional sheets if necessary)

Reviewers	Routing Symbol	Date	Concur	Non-Concur	☐ Recommend Approval ☐ Recommend Disapproval (Return original to originating office through the Regional NCP Coordinator)		
					Routing Symbol	Signature	
Recommended Must Evaluators					Date		

27. Configuration Management Use Only

Figure 1 (continued) NAS Change Proposal Page 2

3.4 Regional Management and RCCB Responsibilities

Perform the RCCB functions as established in the Regional Charters. Ensure adherence to the Configuration Control procedures and support the CM baseline effort by reviewing and approving the technical documentation baselines, and manage the configuration of the facility data items listed in Section 4.0. The RCCBs are responsible for establishing and approving changes to facility baselines and CIs as included in respective RCCB Charters.

3.5 Computer Aided Engineering Graphics (CAEG) Responsibilities

a. Ensure that no modifications to baselines are placed in the system until all data item changes are checked, verified and accompanied by copies of the NCP and approved Configuration Control Decision (CCD), see Figure 2.

b. Ensure that all CM drawings are prepared in accordance with the latest CAEG Program guidance and policy.

NAS CONFIGURATION CONTROL DECISION

1. Prefix	2. NCP/CCD No.	3. Case File No.
4. NCP Title		
5. Site Location(s) - (For Local or Test NCPs/CCDs only)		6. Configuration Item Designator(s)
7. Action Directed		
8. Remarks or Explanation of Disapproval		
9. NCP Decision ☐ Approved ☐ Disapproved	10. Date _____	11. Chairperson Signature(s) and Title(s) _____

Figure 2 - FAA Form 1800-49 NAS Configuration Control Decision

NAS CONFIGURATION CONTROL DECISION

CCD ACTION COMPLETION VERIFICATION

NCP/CCD NO. CASE FILE NO. PAGE 2 OF _____

12. ACTION OFFICE

NAME	ROUTING SYMBOL	DATE
AUTHORIZING OFFICIAL:		

13. DOCCON/ASD-140

NAME	DATE

Figure 2 (continued) FAA Form 1800-49 Page 2, NAS Configuration Control Decision

4.0 FACILITY BASELINE TECHNICAL DATA

There are two categories of technical data required for a facility baseline.

a. Standard facility drawings
b. Engineering data drawings and specifications

The standard facility drawings consist of items such as floor plans and equipment layout drawings. The engineering data drawings and specifications consist of items such as electrical power system and HVAC system information.

There are also two classifications of CM drawing requirements and engineering data.

a. Nationally required items are described in Paragraph 4.3, and shall be documented using the NCP/RCCB process. Nationally required items are identified in Figure 3.
b. Regional option items are those items that the regions may choose to add in the program baseline drawings. These items are also listed in Figure 3.

4.1 Standard Facility CM Drawings

Standard facility CM drawings are to be developed, baselined and maintained in the FAA's CAEG System. Each baseline drawing will be assigned a unique drawing number, which shall conform with CAEG Program guidelines (FAA-STD-002) and applicable CM drawing procedures and standards.

a. Standard facility CM drawings have been developed by the Regions and ANS for the facility types listed.

    1) Air Route Traffic Control Center (ARTCC)
    2) Airport Traffic Control Tower (ATCT), Level V/IV/III/II with radar
    3) Terminal Radar Approach Control (TRACON)
    4) Automated Flight Service Station (AFSS)
    5) Air Route Surveillance Radar (ARSR-4) Joint Surveillance Sites (JSS)
    6) Large TRACON
    7) Air Traffic Control System Command Center (ATCSCC)

b. Standard facility CM drawings (as-built) include:

    1) Air Traffic Operational Areas
    2) Equipment Areas
    3) Administrative, Support, and Storage Areas
    4) Facility Roof Plan: Layout of equipment and antennas located on the roof
    5) Facility Site Plot Plan: Land use layout, including buildings, parking, driveways, antennas, and satellite dishes

Standard facility CM drawings shall require formal documentation and approval from the RCCB to establish or modify baseline information. This will require an NCP, and a formal RCCB review, coordination, and approval process. Standard facility drawings that have been baselined shall be identified in each region's CM Operating Procedures and shall be included in the NAS Master Configuration Index (MCI), NAS-MD-001.

4.2 Engineering Data

Engineering data items are to be represented as fields created in specific data tables and one-line diagrams presented on drawings. Engineering data items can also include specifications. Each drawing will be assigned a unique drawing identification, which will conform with the CAEG Program guidelines (FAA-STD-002) and applicable CM drawing procedures and standards. Engineering drawings consist of the technical data items identified below.

a. One-line power diagram of the Power Distribution System indicating Commercial power source
b. Critical power panelboard schedule for each Power Panel, include:
    1. Power panel identification and location
    2. Associated power bus and capacity in amps
    3. Power panel source (feed)
    4. Breaker panel in amps
    5. Critical bus circuit breakers
    6. Cut over switch to alternate power source
c. Power Transformers Table
    1. Utility Transformers rating in kVA and in kW
    2. Electrical service rating in amps
    3. Measured current total load in amps
    4. Measured load in amps
d. Engine Generator Table
    1. Continuous duty, rated load in kVA, kW, and amps
    2. Voltage in Volts
    3. Measured total load for each phase in amps

4.3 Nationally Required Items

Nationally Required Items (NRIs) are those technical data items that require formal documentation and advanced approval from the RCCB to establish and to make changes to the baseline. This requires a NCP, and a formal RCCB review, coordination, and approval process. The items in this group include the facilities listed in Paragraph 4.1, and will be described in each Region's RCCB Charter. Only these NRIs, will be included in the NAS MCI, NAS-MD-001 and will require formal CM processing.

4.4 Region Optional Items

Region Optional Items (ROIs) cover all other technical data items that are not included in the Nationally Required classification and have been designated by the respective regions as being essential information with a need for keeping the data up-to-date. Each region that chooses to specify ROIs, must also develop roles, assign responsibilities, and setup procedures to insure that ROIs will be maintained and documentation kept current.

Changes will require notification using redlines or a NCP, and will need to follow the regionally established tailored process to maintain the program's integrity. These data items will not be included in NAS MCI, NAS-MD-001.

4.5 Technical Data Items Summary

Figure 3 of this document is the Baseline Drawing Matrix that identifies the Nationally Required items that shall be included in facility baseline drawings along with the region optional items.

Figure 3

Facility Baseline Drawing Matrix

R = Required ***O = Optional***	**FACILITY TYPE**				
	ATCT	**ARTCC**	**AFSS**	**LARGE TRACON**	**ARSR-4**
Antennas/Satellite Dish Locations	R	R	O	R	R
Equipment rack elevation	R	O	O	O	O
Console elevation	R	O	O	O	N/A
Door openings	R	R	R	R	R
Electrical distribution system one-line diagram	R	O	O	O	R
Engine generator room layout	R	R	R	R	R
Equipment hard-mounted on floor and walls	R	R	R	R	R
Equipment legend	R	R	R	R	R
Equipment room cable trays	O	O	O	O	O
Equipment room layout	R	R	R	R	R
Floor plan layouts	R	R	R	R	R
HVAC equipment floor space	R	R	R	R	R
Air Traffic operational areas	R	R	R	R	R
Lightning protection system one-line diagram	O	O	O	O	O
Overhead lighting	O	N/A	O	O	O
Critical Power panel schedule	R	R	R	R	R
Room numbers	O	O	O	O	O
Facility site plot plan	R	R	R	R	R
Facility roof Plan	R	R	O	R	O
Admin Space/office use designations	O	R	O	R	O
Stair locations	R	R	R	R	R
Tower cab layout	R	N/A	N/A	N/A	N/A
Tower console layout	R	N/A	N/A	N/A	N/A
TRACON room layout	R	N/A	N/A	R	N/A
UPS & PCS area	R	R	R	R	R
Wall or flush-mounted power panels	R	R	R	R	R

5.0 GUIDANCE FOR ESTABLISHMENT & MANAGEMENT OF FACILITY BASELINES

The purpose of this section is to provide guidance to regional personnel responsible for formal baseline establishment and change control of regional facilities through their respective RCCB. This section includes a description of the process for the establishment and management of facility layout drawings and engineering data.

The RCCB Chairperson is responsible for the overall effort. The regional personnel tasked to support the effort outlined in this document may include Configuration Managers, NCP Coordinators, Executive Secretaries, RCCB Members, Engineers, and Ad Hoc Members. Each region is responsible for assigning personnel as determined to meet their CCB requirements.

5.1 Criteria for Placing a Facility Under Configuration Management

The requirement to baseline and establish an FAA facility under CM shall be determined by assessing the impact of CIP projects along, with regional and local initiated changes and/or improvements. The complexities and variety of new projects to be implemented will compete for floor space, electrical power, environmental, and operational resources. Those facilities with the greatest impact shall be placed under CM first. The goal is to place all of those facilities in the paragraph 4.1 under CM by the close of FY 2003.

5.2 Drawing Review

The RCCB must have confidence in the accuracy of the CM facility layout drawings. Doubts or known discrepancies must be resolved prior to approving the documentation through the NCP process. The appropriate regional organization must be satisfied that the as-built drawings being submitted to the Board are an accurate representation of the facilities. This is accomplished through the normal RCCB review process.

5.3 Baseline Establishment

An NCP, FAA Form 1800-2, is required to establish the baseline of a facility. Concurrence from both the Airway Facilities (AF) and Air Traffic (AT) Managers and/or Supervisors shall be established on the NCP by obtaining the signatures of those individuals or their designee as a facility is proposed to be placed under CM. Drawings used for the Baseline package will be made up of existing ANI-drawings or drawings created for use in the CM baseline package. The ANI drawings best suited for use in baselining will depict the floor space showing all hard mounted equipment. A listing of the drawings associated with a facility can be reviewed to determine the number and type of drawings available. Facility Baseline CM drawings shall be formatted in a standard method set by the local CM Program Office, the CAEG Drawing Group and FAA-STD-002. CM drawings shall include the statement: "This facility is under Configuration Management any changes require an approved CCD."

5.4 Level of Control

The facility baseline drawings will be maintained for adequate space and power management. Operational and administrative space must be indicated on the layouts and will be subject to RCCB control. This level requires the layouts to depict the physical placement of equipment, racks, and walls, entryways, etc. for the designated operational areas (see Figure 3). After the baseline has been established, all proposed installations, moves, and removals must be processed via an NCP.

5.5 NAS Change Proposal

The NCP process shall be followed for the establishment and updates of facility baselines.

5.5.1 NAS Change Proposal Processing

The NCP example is shown in Figure 1 (see Appendix A for NCP preparation instructions) and is required to baseline a new facility. All layout drawings and data lists to be baselined should be listed in blocks 13 and/or 22 (b) with copies of those layouts and lists attached to the NCP. The NCP is reviewed and processed through the regional change control process and presented at the RCCB for approval. Common changes to all or more than one facility can be submitted as one NCP, but all affected drawings must be provided along with the attached NCP.

5.5.2 Resolution of Comments

The Regional CM Manager, will notify the originator when the NCP has received a concur with comment, a non-concur or a disapproval. The originator, along with the designated Office of Primary Responsibility (OPR) should provide a resolution of comments (ROC) that addresses the non-concurs or a concur with comment by further explaining the proposal to the commentator to reach an understanding. The CM Manager can help facilitate this process but will require the support from the appropriate engineering group. If a ROC or notification is not provided to the CM Manager, the originator will be informed of the option of NCP withdrawal. The ROC process may occur at any stage of NCP processing and is designed to give the originator or OPR another opportunity to provide a more detailed narrative of the change or modification.

5.6 Configuration Control Decisions

A CCD is the document that puts forth the approval of an NCP. An example is provided in Figure 2. The actions listed on a CCD shall identify what actions each organization is required to complete. An action to ASD-220 to update Documentation and Configuration Identification System (DOCCON) and NAS MCI, NAS-MD-001 is required on all CCDs. This is to insure the proper information flow and documentation linkage is contained in DOCCON and NAS MCI, NAS-MD-001. The RCCB is responsible for subsequent changes to the baselined facility drawings. The CM Manager will obtain the appropriate signatures from the RCCB Chairperson or designee for the division and forward as appropriate. Upon completion of actions, notification

is required by submitting a signed verification grid or its equivalent to the CM Manager in the Region.

5.7 Verification of Issued CCD

For NCPs that affect equipment placement or space allocation at the ARTCC, ATCT/TRACON, ARSR-4, ATCSCC, and AFSS facilities, the CM Manager will assign an NCP number. After RCCB review and approval, a CCD is issued to the originator and actionees assigning action items to implement the change. The CM Manager, will hold a CCD copy in suspension until notification is received that implementation has been completed. The CCD closure is the vital link that closes out the NCP in the CM databases. FAA Form 1800-49 "Verification grid" is page 2 of Figure 2 of this document. It is understood that without the NCP approval it will not be implemented as per the current version of FAA Order 1800.8.

When a minor variance has occurred concerning the equipment placement during installation the drawings should be corrected to show the actual placement.

5.8 Baseline Process Recommended Roles and Responsibilities:

AXX-470 - Single point of contact for all CM activities, which includes all proposed NAS changes to systems and baselined facilities throughout the life cycle. The AXX-470 as the RCCB Executive Secretary will develop and maintain a regional baseline database, provide management, and schedules for identifying the FAA facilities to be baselined. The RCCB will provide ANI, with copies of all NCPs (including engineering drawings) and signed CCDs that identifies equipment and/or space management changes.

ANI-XXX - Provide notification to AXX-470 when a request is made for the electronic version of any CM drawing. The notification should identify the purpose and person making the request. A copy of an electronic baseline drawing can be given out as long as the engineer conducting the project or change understands and complies with policy that an NCP shall be created and submitted in a timely manner. Identify implementation phases and provide scheduling of new systems and equipment being installed and deployed within the NAS. Identify funding requirements and coordinate project scheduling information with other participants in coordination with equipment delivery schedule data, including transition schedules. If needed, identify through the Regional Associate Program Managers (RAPMs), the engineering group/System Management Office (SMO)/System Support Center (SSC) who will generate the required NCPs before implementation.

a. **ANI, Section Supervisors** - Ensure that when any engineer or project manager (under their area of responsibility) proposing changes that effect CM drawings or a facility that is under CM, that an NCP will be generated, identifying the change. This NCP shall be submitted in accordance with instructions and approval received from the RCCB before the change occurs. This process provides evaluators and the RCCB members an opportunity to review the change and identify any concerns and potential conflicts with other proposals. It provides a vehicle for coordinating NAS system

changes and allows an equity of review and comments.

c. **ANI-CAEG,** Provide drawing management for baseline drawings and work with all participants in the CM process. Establish all CM drawings on the regional drawing data file and maintain the file. Update CM baseline drawings and distribute in accordance with standard listings.

AXX-410, Responsible for planning and providing the appropriate human resources that will ensure support activities for baselining. This coordination with the participants will help ensure the contract support is completing the task and providing deliverables.

AXX-510, Will manage the transition planning for the Air Traffic Division. Participate in configuration planning, identify operational requirements, and operational transition planning through current AT operations information. Provide the facility data reports for facilities being surveyed and baselined if needed. Coordinate with AXX-470 and provide input on Air Traffic Control (ATC) activity that could effect baselining.

SMO/SSC/Field Office, Support baseline activities and assist with transition planning and provide information while identifying any local and future airport projects and their funding plans. Provide verification as to the accuracy of documents presented by the Baseline Survey Team concerning facility baselining. Ensure NCPs are created and sent through proper channels when identified as the OPI, when a local project or airport project is planned and being implemented.

5.9 Transition Planning and Baseline Process

Before an actual baseline survey of the facility is conducted, drawings, reports, and documents pertaining to the facility operation shall be verified and updated if necessary. The AF and AT tranisition planning organizations should be contacted to ensure that all proposed changes are taken into consideration. Verification can be made well in advance of the survey date.

Notification or a letter of introduction will be sent to the SMO and site personnel who have responsibility for the facility to be visited. They may be asked to:

a. Update and have the most current as-built drawings available on site.
b. Provide accurate equipment list from the Facility Master File (FMF).
c. Provide a copy of an airport master plan if one exists.
d. Provide information about any local projects and funding.
e. Provide information about any planned change in the AT operation.
f. Provide support for the regional Baseline Survey Team.
g. Redline any drawings sent in support of Baselining.
h. Provide a listing of problem issues relating to CM.

To make the most efficient use of resources, AXX-470 can provide assistance by obtaining

facility drawings for the site and provide them to the offices or any AF SMO/SSC/field office. The Baseline Survey Team will consist of the CM Manager, along with additional Regional Office, sector or site personnel to provide facility access and information.

The steps the Baseline Survey Team will take prior to a site visit include:

a. Obtain the appropriate "as-built" drawings from ANI-CAEG.
b. Obtain the latest Material Delivery Forecast Module (MDFM), CIP schedules and other reports listing all the equipment with installation dates that effect that facility.
c. Forward current drawing set to facility for review and possible update.
d. Copies of checklists.
e. Obtain camera, film and tape measure.
f. Prepare in briefing for site personnel.
g. Make travel arrangements and contact site personnel.

The Baseline Survey Team will:

a. Present an in briefing to appropriate facility personnel.
b. Survey facility verifying drawings and complete redlines.
c. Gather Data with site personnel and record problem areas and concerns the facility may have in CM.
d. The Baseline Survey Team will provide the initial NCP for baselining the facility. Subsequent NCPs will be generated by the SMO or the Engineering Section responsible for the project. All NCPs will be completed in accordance with Appendix A of this document.
e. The Baseline Survey Team will obtain the signatures of the appropriate AF and AT personnel on NCP form during the site survey.
f. Debrief personnel, , identify any action items and identify site CM points of contact
g. Provide written notification that summarizes the facilities CM responsibilities and RCCB process.

5.9.1 Post Baseline Site Survey

The NCP along with the drawings will be routed to regional evaluators and presented to the RCCB for review and approval. Copies of the updated facility baseline drawings will be distributed in accordance with the distribution agreement between the CM group and the drawing group (CAEG). A set of baseline drawings will be established as documents and will be placed under CM and managed by the RCCB. The Facility data reports, a requirement of Air Traffic, describe the building and structure, space layout and the type of NAS equipment used throughout the facility. The CM baseline drawings should be used to supplement this AT requirement. Follow ups with the site personnel should be completed on a continuous basis to identify any items outstanding and take action necessary to resolve them.

ACRONYMS

AF	Airway Facilities
AFSS	Automated Flight Service Station
AMPS	Amperes
ARTCC	Air Route Traffic Control Center
AT	Air Traffic
ATC	Air Traffic Control
ATCSCC	Air Traffic Control System Command Center
ATCT	Airport Traffic Control Tower
ARSR	Air Route Surveillance Radar
BPR	Business Process Reengineering
CAEG	Computer Aided Engineering Graphics
CCB	Configuration Control Board
CCD	Configuration Control Decision
CI	Configuration Item
CIP	Capital Investment Plan
CM	Configuration Management
CMSG	Configuration Management Steering Group
COM	Communications
Comm	Communications
CPFS	Computer Program Functional Specification
DF	Direction Finder
DOCCON	Documentation and Configuration Identification System
DWG	Drawing
ECP	Engineering Change Proposal
ECR	Engineering Change Request
EG	Engine Generator
FAA	Federal Aviation Administration
FMF	Facility Master File
FSEP	Facility Service Equipment Profile
HDR	Hardware Discrepancy Report
HVAC	Heating, Ventilation, and Air Conditioning
ICD	Interface Control Document
IRD	Interface Requirements Document
JSS	Joint Surveillance Site
KVA	Kilo Volt Amperes
KW	Kilo Watt
MCI	Master Configuration Index
MDFM	Material Delivery Configuration Index
MTBK	Maintenance Technical Handbook
NAS	National Airspace System
NAV	Navigation
NCP	NAS Change Proposal
NISC	National Implementation Support Contractor

NRI	Nationally Required Item
OPI	Office of Primary Interest
OPR	Office of Primary Responsibility
PCS	Power Conditioning System
RAPM	Regional Associate Program Manager
RCCB	Regional Configuration Control Board
RO	Regional Office
ROC	Resolution of Conflict
ROI	Region Optional Item
SMO	System Management Office
SPEC	Specification
SSC	System Support Center
STARS	Standard Terminal Automated Replacement System
TES	Technical Employee Suggestion
TELCO	Telephone Company
TI	Technical Instruction Handbook
TRACON	Terminal Radar Approach Control
UPS	Uninterruptable Power System

APPENDIX A

NAS Change Proposal, Detailed Instructions

a. General Instructions. All pages of the Casefile/NAS Change Proposal (NCP) should be numbered and clearly marked page (A) of (B), where (A) is the actual page number and (B) is the total number of pages. Blocks 1 through 22 are to be completed by the originator, using additional sheets if necessary. If a block is not applicable, designate with "N/A." Whenever possible, all information should be typed on the form. A copy of the NCP form is available on disk, by contacting the Regional CM Manager.

b. Detailed Instructions.

(1) BLOCK 1, CASE FILE NUMBER. This number should be a unique identification number with a standard format, i.e. GRBAF-ILS-001.

(a) The first five characters will identify the affected facility and originating division, i.e. GRBAF, OKCOS, MIAAT, ORDAT. The Casefiles originated within the Regional Office (RO) will use the affect facility ident with either RF (Regional Airway Facilities Division) or RT (Regional Air Traffic Division) added to it, i.e. ORDRT, HONRF, MSNRT, MSPRF. This method will remove the possibility of duplication of Casefile numbers, to better manage the many changes that occur at each site, and keep uniformity in the process. Case Files having a national impact should contain the individual SMO/PROGRAM OFFICE identifier that the facility is located in, i.e. AUAAF, MIAAF, OHIRT, AOSAF, etc. All national programs with multiple locations scheduled to receive equipment must be listed as part of the proposal.

(b) The center group can consist of five characters or spaces that represent the acronym for the subsystem the Casefile proposal is affecting. In most cases this will correspond to the Facility Master File (FMF) acronym for the subsystem or the Configuration Item (CI) as identified in the NAS MCI, NAS-MD-001 document, i.e. ILS, AFSS, PAMRI, ASR, DMN, etc.

(c) Last group of three digits denotes consecutive number assigned by the originator's organization for the specific subsystem identified in the center group (e.g., 001, 027, etc.). **NOTE**: Numbers are assigned consecutively for the life of the system, do not start over again at the beginning of the calendar year.

(d) A capital letter added at the end of a Casefile number denotes an amendment to that Case File (e.g., A, B, C, etc.).

(2) BLOCK 2, PRESCREENING OFFICE. Required field for all field-initiated Casefiles and headquarters-initiated Casefiles affecting the top level NAS documents. Prescreening offices perform reviews for technical merit and feasibility of each change. The prescreening offices are found in the NAS MCI, NAS-MD-001 document.

(a) Other (BLANK). Used when other than a regular prescreening office is identified (e.g., Regional prescreening office of Regional Configuration Control Board (RCCB), AXX-470, or ASD-220, for the installation and siting criteria waivers).

(3) BLOCK 3, SCOPE OF CHANGE. Select one applicable scope of change.

(a) Local. Casefile is local in scope (i.e., applies to one or more identified sites-not nationally applied) and can be approved by either a Headquarters Configuration Control Board (CCB) e.g., IPT or ME or a RCCB (AT software Casefiles are approved at the national level).

(b) Test. Casefile is for a limited duration and site(s) must be specified (approved by a Headquarters CCB).

(c) National. Casefile is national in scope (applicable to all items of type specified) and is approved by a Headquarters CCB.

(d) Capital Investment Plan. Casefile affects items under the Capital Investment Plan (should require F & E funding).

(4) BLOCK 4, PROGRAM ELEMENT. Represents a broad functional area of the NAS as defined in the NAS Level 1 Design Document (NAS-DD-1000) or the Master Configuration Index (MCI). Check only one Program Element indicating the functional area to which the Configuration Item (CI) affected by the Casefile belongs. (Refer to NAS MCI, NAS-MD-001 for additional information.)

(5) BLOCK 5, LIFE-CYCLE BASELINE. Select one life-cycle baseline.

(a) Requirements Determination. For Casefiles affecting NAS System Requirements Specification (NAS-SR-1000), Level 1 Design Document (NAS-DD-1000), or NAS System Specification (NAS-SS-1000).

(b) Acquisition. There are four baselines which may apply to a subsystem in the acquisition process:

1 Functional. A CIs functional baseline will include the system/segment specification and interface documentation (interface requirements and interface control documents).

2 Allocated. A CIs allocated baseline may include a development specification, a software requirements specification, an interface requirements specification, and an operational concept document.

3 Design. This baseline is usually applied to software development programs, although hardware may be included. It consists of the preliminary software product specification in interface control documents.

4 Product. This baseline consists of the approved technical documentation defining the configuration of a CI during production, operation, maintenance and logistics support.

(c) Operational. For Casefiles affecting operational/fielded NAS subsystems. Most field-initiated Casefiles affect the operational baseline.

(6) BLOCK 6, PRIORITY. Select only one priority. If time-critical or urgent, justification MUST be provided in Block 22g. See the current version of FAA Order 6032.1 Modifications to Ground Facilities, Systems, and Equipment in the NAS for authorization of emergency modifications.

(a) Normal. Classification for Casefiles that do not meet criteria of urgent or time-critical.

(b) Time-Critical. Classification restricted to changes truly requiring expeditious processing (e.g., need CCD by certain date, to support schedule of other projects, budget related, etc.). Reason and required date must be specified in Block 22g.

(c) Urgent. Classification for changes which will prevent a prolonged outage or catastrophic failure to operational systems or correct unsafe conditions (per FAA Order 6032.1). Include explanation under justification in Block 22g.

(7) BLOCK 7, SUPPLEMENTAL CHANGE FORM. Used to identify initiating change documentation, such as Engineering Change Request (ECR), Engineering Change Proposal (ECP), Technical Employee Suggestion (TES) or other change forms such as the Hardware Discrepancy Report (HDR). If a change form other than ECR/ECP or TES is used, place a check mark in the "blank box" and write the name of the form on the line next to the box. A copy of the change form used to initiate the Casefile must be attached. If not applicable, this block is marked N/A.

(a) Supplemental Change Number. If either ECR/ECP, TES or "blank box" is checked in the upper portion of Block 7, then the corresponding ECR/ECP, TES or other number must be supplied as the Supplemental Change Number.

(b) Supplemental Change Initiation Date. The date of initiation of either the ECR/ECP, TES or other supplemental change is entered here.

(8) BLOCK 8, CASE FILES ORIGINATOR. Case File originator's full name must be printed in this block.

(9) BLOCK 9, ORIGINATOR ORGANIZATION. The organization of the originator identified in Block 8 must be entered in this block.

(10) BLOCK 10, TELEPHONE NUMBER. The commercial telephone number of the originator identified in Block 8 must entered in this block.

(11) BLOCK 11, CASE FILES INITIATION DATE. The date of initiation of the Casefile is entered here.

(12) BLOCK 12, BASELINE DOCUMENT TYPE. At least one baseline document type MUST be selected. Multiple selections can be made only if multiple types of baseline documents are being changed by a Casefile. (Reference NAS MCI, NAS-MD-001.)

(a) CPFS = Computer Program Functional Specification
(b) TI = Technical Instruction Book
(c) SPEC = Specification
(d) DWG = Drawing
(e) MTBK = Maintenance Technical Handbook
(f) IRD/ICD = Interface Requirement Document/Interface Contl Document

(13) BLOCK 13, BASELINE DOCUMENT NUMBER(S). The document number of each baseline document must be provided. In most cases, Case Files without identified documentation cannot be processed. (Reference NAS MCI, NAS-MD-001.)

(14) BLOCK 14 - CI SUBSYSTEM DESIGNATOR.

(a) For hardware or software subsystems in the operational support phase, the CI subsystem designator is the FSEP facility acronym (e.g., ARSR, CD, COM, DF, VOR). If an FSEP facility acronym does not exist for the CI, the FAA project acronym is used (ARSR-2, ASR-7, and ATCBI-5). CI designators for software include program category designators (i.e., CPF, CPH and CPT) or subsystem designators (i.e., AR2, AR3, EARTS and MPS).

(b) For hardware or software subsystems in the acquisition phase, the FAA project acronym is the CI subsystem designator (TDWR, WMSCR, AFSSWS).

(c) For changes that apply to the top level NAS documents, the CI designator "NAS" is used, as well as the CI subsystem designators for specific CIs (TCCC, ACCC, ISSS, etc.).

(15) BLOCK 15, FA TYPE. A number (format: FA-00000). Whenever equipment or software having an assigned FA type number is affected by the proposed change, that FA type number should be provided.

(16) BLOCK 16, CI COMPONENT DESIGNATOR. Equipment or software component CIs of NAS subsystems may appear in NAS MCI, NAS-MD-001, although they do not have assigned FA type numbers. If the component CI affected by a proposed change appears in NAS MCI, NAS-MD-001, the corresponding CI component designator should be cited on the Casefile as it appears in NAS MCI, NAS-MD-001 (e.g., 2-1-6-1-2, - 352103, Type 55 Localizer).

(17) BLOCK 17, FACILITY IDENTIFIER (FACID). For Local and Test Case Files. (Format: AABBBBBCCCC) This is an eleven character field (i.e., GLASRGRB) with the first two characters "GL" representing the Region, the second set of up to five characters identify the system or CI being effected, and the third group of up to four characters "GRB" representing the Location per the FMF/FSEP. The identifier is entered on the form the same way it is entered into DOCCON, each character has a place and if there is no character for a given place then a space is the proper character. Enter "N/A" for National and Capital Investment Plan (CIP) Casefiles.

(18) BLOCK 18, FACILITY CODE (FACCODE). For Local and Test Casefiles. This is a five digit code which breaks the facility down to its lowest unit as per FAA Order 1375.4 Standard data elements, Facility Identification and Supplements (ASDE-2 would be entered 45512). Enter "N/A" for National and CIP Casefiles. **NOTE**: This field does not apply to Air Traffic operational Casefiles.

(19) BLOCK 19, COST CENTER CODE. (Format: 00000) Five character alphanumeric code indicating cost center which change implementation is to be charged against. This should be provided for Local and Test Casefiles.

(20) BLOCK 20, SOFTWARE SYSTEM VERSION. When making a change to software the specific system version of the software being proposed for change is to be provided (i.e., Version 4.2). In addition, if known, the system version in which the change is expected to be implemented is to be provided.

(21) BLOCK 21, TITLE. Indicate the subject of the change, being as descriptive as possible. Spell out all acronyms fully. For waivers to installation and siting criteria, include location and runway if applicable.

(22) BLOCK 22, DESCRIPTION. Complete information pertaining to items **a** through **g** should be provided. Attach additional pages if necessary.

(a) Identification of Problem. Provide complete information identifying nature of problem, length of time it has existed, etc. Include a statement on the NCP form (whenever equipment is being moved into a location designated for end-state equipment) indicating that this is an interim move and the estimated date that the equipment will be relocated.

(b) Proposed Change. Identify proposed solution(s) to the problem (include was/now pages for document or drawing changes as applicable). State precisely the intended change. Include a copy of the baseline, as-built drawing showing the new equipment location "as

it will be" when the proposal is implemented. If the move requires the relocation of other equipment, include a statement indicating where it will be moved to.

(c) Interface Impact. Identify any and all interface impacts involved with the proposed change.

(d) Cost. This is a requirement and needs to be written into each casefile so that it is apparent where the funding source is and the breakdown. (It is not acceptable to just state there are no costs or that they are covered by program funding). The cost estimate must contain a statement as to whether its been approved in the workplan and identify the fiscal year it was approved for.

(e) Benefits. State the benefits of this change (i.e., specific cost savings to the government, increased efficiency, safety, etc.).

(f) Schedule. Provide a schedule for the change to be implemented when possible.

(g) Justification of Time-Critical/Urgent Status. Required field when Block 6 of the Case File is checked as being time-critical or urgent. N/A should be entered if the Case File has normal priority.

(23) BLOCK 23, NAME AND TITLE OF ORIGINATOR'S IMMEDIATE SUPERVISOR. Required field. Title and name must be typed or printed clearly in the first section of this block. The supervisor's legal signature goes in the second section of the block and the date signed goes in the third section.

(24) BLOCK 24, FACILITY/SMO REVIEW (AT/AF). Facility/SMO coordination is required for all Case Files originating from a facility or SMO. The SMO Manager and Air Traffic Manager or designee shall sign the block(s) at the bottom of Block 24.

(25) BLOCK 25, REGIONAL REVIEW (AT/AF/FS/AS). Regional coordination is required for all Case Files originating from a facility/SMO/region. The signature of AXX-400 or alternate, and signature of the individual responsible for regional Case File coordination (CM Coordinator or Regional Executive Secretary) is also required in the blocks at the bottom of block 25. Evaluators shall ensure that program concerns and general policy positions are consistent with their organization. The review or evaluation should consider operational effectiveness, including safety. The top grids in block 25 of the NCP form indicating position shall be completed.

(26) BLOCK 26, PRESCREENING REVIEW AND COMMENTS. Required field. This field is completed by the Prescreening Office and not the originator of the NCP. Prescreening review MUST be indicated for those Casefiles requiring review by a prescreening organization. The prescreening office will accomplish the review, recommend approval or disapproval of the Casefile and list the recommended "Must Evaluators" for review. If

disapproved, by the prescreening office or the "must evaluators," the Casefile will be returned with comments to the originator, through ASD-220, or an IPT and the Regional CM Coordinator.

(27) BLOCK 27, CONFIGURATION MANAGEMENT USE ONLY. This block is for internal use by ASD-220. This block is also used by the Regional Configuration Managers to indicate the disposition of RCCB controlled NCPs. Besides withdrawals and cancellation of NCPs, it provides notification of Casefile status, changes and impacts.

(28) When Casefiles and NCPs are submitted identifying equipment or space change(s) current drawings depicting the proposed change should be included with the NCP. A before and after layout should be submitted for clarification.

(29) When Casefiles/NCPs are submitted for review, either electrical power panel proposals or other equipment changes, a glossary of acronyms must be included with the NCP. The glossary of acronyms should be provided on the drawing, if appropriate, placed next to the panel schedule being updated. This will help to ensure thorough NCP evaluations are completed.✈